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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/839,949	04/19/2001	Jean-Louis Excoffier	01-02 US	4507

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Varian Inc.
Legal Department
3120 Hansen Way D-102
Palo Alto, CA 94304

EXAMINER

MAHATAN, CHANNING

ART UNIT	PAPER NUMBER
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1631

10

DATE MAILED: 06/19/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/839,949

Applicant(s)

EXCOFFIER, JEAN-LOUIS

Examiner

Channing S. Mahatan

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 April 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-56 is/are pending in the application.
- 4a) Of the above claim(s) 30-42 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-29 and 43-56 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-56 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 02 April 2003 is: a) ☒ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) 1 Sheet
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

$+$

Approved for use through 10/31/2002. OMB 0651-0031

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet	1	of	1
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Complete if Known

Application Number	09/839,939
Filing Date	April 19, 2001
First Named Inventor	Jean-Louis Excoffier
Group Art Unit	1632
Examiner Name	
Attorney Docket Number	01-02 US

OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS

[illegible]

Examiner
Signature

C. M. 18

Date
Considered

June 12, 2003

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U. S. Patent and Trademark Office, Washington, DC 20231. **DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO:** Assistant Commissioner for Patents, Washington, DC 20231.

DETAILED ACTION

APPLICANTS' ARGUMENTS

Applicants' arguments in Paper No. 8, filed 02 April 2003, have been fully considered but they are not deemed to be persuasive. Rejections and/or objections not reiterated from previous office actions are hereby withdrawn. The following rejections and/or objections are either reiterated or newly applied. They constitute the complete set presently being applied to the instant application.

CLAIMS UNDER EXAMINATION

Claims herein under examination are claims 1-29 and 43-56. Claims 30-42 remain withdrawn.

Claims Rejected Under 35 U.S.C. § 101

35 U.S.C. § 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-18 and 49-53 are rejected under 35 U.S.C. § 101 because the claimed invention is directed to non-statutory subject matter as necessitated by amendment.

NON-STATUTORY SUBJECT MATTER

Claims 1-18, 44, 45, and 49-53 are rejected under 35 U.S.C. § 101 because the claimed invention is directed to non-statutory subject matter. The claimed invention is directed to a "method for analyzing chromatograms".

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M.P.E.P. section entitled "Nonstatutory Subject Matter" (pages 2100-12, Columns 1-2) states:

Claims to processes that do nothing more than solve mathematical problems or manipulate abstract ideas or concepts are more complex to analyze and are addressed below. If the "acts" of a claimed process manipulate only numbers, abstract concepts or ideas, or signals representing any of the foregoing, the acts are not being applied to appropriate subject matter. *Schrader*, 22 F.3d at 294-95, 30 U.S.P.Q.2d at 1458-59. Thus, a process consisting solely of mathematical operations, i.e., converting one set of numbers into another set of numbers, does not manipulate appropriate subject matter and thus cannot constitute a statutory process.

Further, M.P.E.P. section entitled "Statutory Process Claims" (page 2100-15, Column 1-2) states:

A claim that requires one or more acts to be performed defines a process. However, not all processes are statutory under 35 U.S.C. 101. *Schrader*, 22 F.3d at 296, 30 U.S.P.Q.2d at 1460. To be statutory, a claimed computer-related process must either: (A) result in a physical transformation outside the computer for which a practical application in the technological arts is either disclosed in the specification or would have been known to a skilled artisan (discussed in i) below), or (B) be limited to a practical application within the technological arts (discussed in ii) below). See *Diamond v. Diehr*, 450 U.S. at 183-84, 209 U.S.P.Q. at 6 (quoting *Cochrane v. Deener*, 94 U.S. 780, 787-88 (1877)) ("A [statutory] process is a mode of treatment of certain materials to produce a given result. It is an act, or a series of acts, performed upon the subject-matter to be transformed and reduced to a different state or thing.... The process requires that certain things should be done with certain substances, and in a certain order; but the tools to be used in doing this may be of secondary consequence."). See also *Alappat*, 33 F.3d at 1543, 31 U.S.P.Q.2d at 1556-57 (quoting *Diamond v. Diehr*, 450 U.S. at 192, 209 U.S.P.Q. at 10). See also *id.* at 1569, 31 U.S.P.Q.2d at 1578-79 (Newman, J., concurring) ("unpatentability of the principle does not defeat patentability of its practical applications") (citing *O'Reilly v. Morse*, 56 U.S. (15 How.) at 114-19). If a physical transformation occurs outside the computer, a disclosure that permits a skilled artisan to practice the claimed invention, i.e., to put it to a practical use, is sufficient. On the other hand, it is necessary for the claimed invention taken as a whole to produce a practical application if there is only a transformation of signals or data inside a computer or if a process merely manipulates concepts or converts one set of numbers into another.

The computation steps/processes of claims 1-18 and 49-53 are merely "mental" processes of performing mathematical operations (manipulation of numbers) applied to a computer. The claims do not recite any concrete or tangible results; therefore the claims do not recite statutory subject matter. For example, instant claim 1 comprises the steps of receiving data, adjusting it, reducing it, and comparing it to another set of data. It should be noted the "original" claims were directed to a method and system for classifying chromatograms, wherein it was presumed the resulting method and system would result in classified chromatograms.

Claims Rejected Under 35 U.S.C. § 112 1st Paragraph

SCOPE OF ENABLEMENT

Claims 1-29 and 43 are rejected under 35 U.S.C. § 112, first paragraph, because the specification, while being enabling for a method, system, and computer useable medium of analyzing chromatograms, does not reasonably provide enablement for all forms of adjustment to chromatogram data, all forms of reducing chromatogram data to a data set, and all equations for analysis as encompassed by applicant as necessitated by amendment.

Applicant argues the claimed invention deals with methods of analyzing data (i.e. chromatogram data), which may be implemented using software, hardware, or combination of both, the nature of which is predictable. Indicating each of the steps recited in claim 1 can be practiced with predictable result. Applicant's argument is found unpersuasive and clarification of the rejection is provided for below.

The specification states "...the invention provides a method for reducing each chromatogram to a data set that can be compared to another such data set, producing a comparison result that indicates the similarity or dissimilarity of the two chromatograms" (page 3, lines 6-8), wherein specific similarity and dissimilarity equations are disclosed on pages 11 of the specification. Further, the specification states "...comparisons between different chromatograms, the positional data for peaks in different chromatograms can be analyzed consistent with each other". The following is reiterated from Paper No. 7, mailed 31 December 2002:

"Applicant's enablement is limited to "adjusting data in the first and second regions of interest comprising centering an analysis window around one or more trace features in a given region of interest" (instant claim 4); "reducing the first and second chromatogram data to the first and second data sets: comprising

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determining an integral of the first and second chromatogram data and plotting against a time axis; determining a set of time points; and forming arrays of data set values based upon the set of time points and corresponding integral values for the set of time points" (instant claim 9); "Similarity Equation" (Eq. 5); "Dissimilarity Equation" (Eq. 6); and "Distance Equation" (Eq. 7) as indicated on pages 11-12 of the specification. The original disclosure lacks guidance (other than that stated above) to perform the acts/steps of "adjusting" (i.e. centering an analysis window arbitrarily) and "reducing" (i.e. data set values based upon an arbitrary value rather than time point). The disclosure presents specific equations for determining the degree of "similarity", "dissimilarity", and "distance", however, fails to provide guidance on how to perform other "similarity", "dissimilarity", and "distance" determinations as broadly encompassed by applicants' claim language."

Thus, the specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to use the invention (disclosed as a "method and system for classification of chromatograms"; page 15, line 6) commensurate in scope (requiring all of the above steps) with these claims.

Claims Rejected Under 35 U.S.C. § 112 2nd Paragraph

Claims 1-29 and 43-56 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention as necessitated by amendment.

VAGUE AND INDEFINITE

Claims 1, 19, 43, and all claims dependent therefrom are indefinite due to the lack of clarity of the claim language failing to recite a final process step, which agrees back with the preamble. The preamble states that it is "A method of analyzing chromatograms", however the claim recites a final step of "comparing the first data set and the second data set". Absent is any indication of the purpose of the instantly claimed method is to accomplish other than manipulating data (i.e. what does the final step of comparing data sets mean?). It should be note

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the "original" claims were directed to a "method for classifying chromatograms", implying a final step/set of classified chromatograms (although absent). While minor details are not required in method/process claims, at least the basic step must be recited in a positive, active fashion. The claim does not set forth the conditions/state the resulting intent of the claimed method. Clarification of the metes and bounds of the claim is requested via clearer claim wording.

Claim 6 (line 1) and all claims dependent therefrom recites the phrase "bad data" which is vague and indefinite. It is acknowledged that the specification (page 6, lines 16-30) describes "bad" as flawed data ("a peak that exceeds a threshold characteristic") and that a "bad data filter could be employed to determine if a particular chromatographic trace corresponds to flawed data". However, the disclosure fails to provide further meaning or limitation to the term "threshold characteristic"; absent is "the point or value above which something true or will take place and below which is not or will (take place)" which applicant regards as "bad data". Thus, given the broad concepts provided for by the disclosure, it is unclear what applicant refers to as "bad or flawed data". Clarification of the metes and bounds of this limitation, via clearer claim language, is required.

Claim 3 is confusing wherein the claim indicates the steps of identifying the first and second regions of interest in the first and second chromatogram data, respectively. Claim 1 indicates the adjustment of the first and second chromatogram data in a first and second region of interest, respectively. Thus, as implied by the adjustment step(s) in claim 1 the identification step(s) in claim 3 must be performed in order to adjust. Clarification of the metes and bounds, via clearer claim language is requested.

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INFORMATION DISCLOSURE STATEMENT

The information disclosure statement, Paper No. 10, was considered. However, the information disclosure statement contains a reference to an Internet website, which is lined through because the reference fails to indicate a "last updated" date. Internet websites are continuously updated and thus, the information publicly available on the website cannot be confirmed.

ACTION IS FINAL, NECESSITATED BY AMENDMENT

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See M.P.E.P. § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 C.F.R. § 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 C.F.R. § 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Appropriate Correction Is Requested.

No Claims Are Allowed.

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EXAMINER INFORMATION

Papers related to this application may be submitted to Technical Center 1600 by facsimile transmission. Papers should be faxed to Technical Center 1600 via the PTO Fax Center located in Crystal Mall 1. The faxing of such papers must conform with the notices published in the Official Gazette, 1096 OG 30 (November 15, 1988), 1156 OG 61 (November 16, 1993), and 1157 OG 94 (December 28, 1993) (See 37 C.F.R. § 1.6(d)). The CM1 Fax Center number is either (703) 308-4242 or (703) 305-3014.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Channing S. Mahatan whose telephone number is (703) 308-2380. The examiner can normally be reached on M-F (8:30-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael P. Woodward, Ph.D., can be reached on (703) 308-4028.

Any inquiry of a general nature or relating to the status of this application should be directed to Legal Instruments Examiner, Tina M. Plunkett, whose telephone number is (703) 305-3524 or to the Technical Center receptionist whose telephone number is (703) 308-0196.

Date: June 13, 2003

Examiner Initials: CSM

Marianne P. Allen
MARIANNE P. ALLEN
PRIMARY EXAMINER
GROUP 1800
Art 1631